1460.01 General

Fencing is provided primarily to discourage encroachment onto the Washington State Department of Transportation's (WSDOT's) highway right of way from adjacent property and to delineate the right of way. It is also used to replace fencing that has been disrupted by construction and to discourage encroachment onto adjacent property from the highway right of way.

The reason for discouraging encroachment onto the right of way is to limit the presence of people and animals that might disrupt the efficient flow of traffic on the facility. Although not the primary intent, fencing does provide some form of separation between people, animals, the traffic flow, or other special feature and, therefore, a small measure of protection for each.

1460.02 References

*Plans Preparation Manua*l, M 22-31, WSDOT

Roadside Manual, M 25-30, WSDOT

Standard Plans for Road, Bridge, and Municipal Construction (Standard Plans), M 21-01, WSDOT

Standard Specifications for Road, Bridge, and Municipal Construction (Standard Specifications), M 41-10, WSDOT

1460.03 Design Criteria

(1) General

Fencing on a continuous alignment usually has a pleasing appearance and is most economical to construct and maintain. The recommended practice is to locate fencing or, depending on terrain, 12 in. inside the right of way line.

Where the anticipated or existing right of way line has abrupt irregularities over short distances, coordinate with Maintenance and Real Estate Services personnel to dispose of the irregularities as excess property, where possible, and fence the final property line in a manner that is acceptable to Maintenance.

Where possible, preserve the natural assets of the surrounding area and minimize the number of fence types on any particular project.

(2) Limited Access Highways

On highways with limited access control, fencing is mandatory unless it has been established that such fencing may be deferred. Fencing is required between frontage roads and adjacent parking or pedestrian areas (such as at rest areas and flyer stops) and highway lanes or ramps unless other barriers are used to discourage access violations.

On new alignment in rural areas, fencing is not provided between the frontage road and abutting property unless the abutting property was enclosed prior to highway construction. Such fencing is normally part of the right of way negotiation.

Unless there is a possibility of access control violation, fencing installation may be deferred until needed at the following locations. (When in doubt, consult the HQ Access and Hearings Engineer.)

- Areas where rough topography or dense vegetation provides a natural barrier.
- Along rivers or other natural bodies of water.
- In sagebrush country that is sparsely settled.
- In areas with high snowfall levels and sparse population.
- On long sections of undeveloped public or private lands not previously fenced.

(3) Managed Access Highways

Fencing is not required for managed access highways. When highway construction will destroy the fence of an abutting property owner, originally constructed on private property, the cost of such replacement fencing may be included in the right of way payment. When the fences of several property owners will be impacted, it may be cost-effective to replace the fences as part of the project.

If fencing is essential to safe operation of the highway, it will be constructed and maintained by the state. Examples of this are the separation of traveled highway lanes and adjacent facilities with parking or pedestrian areas such as rest areas and flyer stops.

(4) Special Sites

Fencing is often needed at special sites such as pitsites, stockpiles, borrow areas, and storm water detention facilities.

It is recommended that storm water detention facilities and wetland mitigation sites be fenced if all of the following conditions exist:

- The storm water detention facility or wetland mitigation site is outside highway right of way fencing.
- The slopes into the storm water detention facility or wetland mitigation site are 3H:1V or steeper.
- The storm water detention facility or wetland mitigation site is located near a school, park, trail, or other facility frequented by children not accompanied by an adult.

Fencing proposed at sites that will be outside WSDOT right of way requires that local ordinances be followed if they are more stringent than WSDOT's.

Fencing is not installed around storm water detention ponds within right of way fencing.

Other special sites where fencing may be required are addressed in the following chapters:

- 1020 Bicycle Facilities
- 1025 Pedestrian Design Considerations
- 1120 Bridges

The type and configuration of the fence is determined by the requirements of each situation.

1460.04 Fencing Types

(1) Chain Link

Installation of chain link fence is appropriate for maximum protection against right of way encroachment on sections of high volume highways under the following conditions:

- Along an existing business district adjacent to a freeway.
- Between a freeway and an adjacent parallel city street.
- At locations where existing streets have been cut off by freeway construction.
- At industrial areas.
- At large residential developments.
- At military reservations.
- At schools and colleges.
- At recreational and athletic areas.
- At developed areas at the intersection of two limited access highways.
- At any other location where a barrier is needed to protect against pedestrian, bicyclist, or livestock encroachment in limited access areas.
- See Chapter 640 for roadway sections in rock cuts.

The Standard Plans contains details for the four approved types of chain link fence. The recommended uses for each type of fence are as follows:

(a) **Type 1.** A high fence for areas of intensified use, such as industrial areas or school playgrounds. It is not to be used within the Design Clear Zone because the top rail of the fence is considered a hazard. (See Chapter 700.)

(b) **Type 3.** A high fence for use in suburban areas with limited existing development. It may be used within the Design Clear Zone.

(c) **Type 4.** A lower fence for special use, such as between the traveled highway lanes and a rest area or flyer stop, or as a rest area boundary fence

if required by the development of the surrounding area. This fence may be used along a bike path or hiking trail to separate it from an adjacent roadway.

(d) **Type 6.** A lower fence used instead of Type 1 where it is deemed important not to obstruct the view toward or from areas adjacent to the highway. This fence is not to be used within the Design Clear Zone because the top rail of the fence is considered a hazard. (See Chapter 700.)

Coated galvanized chain link fence is available in various colors and may be considered in areas where aesthetic considerations are important. Coated ungalvanized chain link fence is not recommended.

(2) Wire Fencing

The Standard Plans and Specifications contain details for the two approved types of wire fence. The recommended uses for each type of fence are as follows:

(a) **Type 1.** This fence is used in urban and suburban areas where improvements along the right of way are infrequent and future development is not anticipated. It may also be used adjacent to livestock grazing areas. The lower portion of this fence is wire mesh and provides a barrier to children and small animals.

(b) **Type 2.** This fence is used in farming areas to limit highway crossings by farm vehicles to designated approaches: in irrigation districts to prevent ditch riders, maintenance personnel, and farmers from making unauthorized highway crossings; and where new alignment crosses parcels previously enclosed by barbed wire.

(3) Other Considerations

Extremely tall fences (7 to 10 ft high) may be used in areas where there are exceptional hazards such as large concentrations of deer or elk. See the region's Environmental Office and the *Roadside Manual* concerning wildlife management.

Metal fencing can interfere with airport traffic control radar. When locating fencing in the vicinity of an airport, contact the Federal Aviation Administration to determine if metal fence will create radar interference at the airport. If so, use nonmetallic fencing.

Do not straddle or obstruct surveying monuments.

1460.05 Gates

Keep the number of fence gates along limited access highways to a minimum. On limited access highways, all new gates must be approved as described Chapter 1425, "Access Point Decision Report."

Usually such gates are necessary only to allow highway maintenance personnel and operating equipment to reach the freeway border areas without using the through-traffic roadway. Gates may be needed to provide access to utility supports, manholes, and the like, located within the right of way.

Use gates of the same type as the particular fence, and provide locks to deter unauthorized use.

In highly developed and landscaped areas where maintenance equipment is parked outside the fence, provide the double gate indicated in the Standard Plans.

Where continuous fencing is not provided on limited access highways, Type C approaches are normally gated and locked, with a short section of fence on both sides of the gate.

1460.06 Procedure

Fencing is included in the access report, in accordance with Chapter 1430, and the PS&E, in accordance with the *Plans Preparation Manual*.

1460.07 Documentation

The following documents are to be preserved in the project's design documentation file. See Chapter 330.

- ☐ Reasons for providing fencing and for the type and configuration selected.
- ☐ Justification for using a nonstandard fence design.
- ☐ Justification for deferring or not providing fencing on a highway with limited access control or as otherwise recommended in this chapter.
- ☐ Access Point Decision Report for gates on limited access highways.